CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/BHSK/W.No.14/CSR-02/562m/CEMENT/2017-18 Date: 06.02.2018

TEST REPORT ON CEMENT

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. B.H. Shivakumar,** No.1304, 12th Cross, 7th Main, WOC Road 2nd Sage, Bangalore – 560 086.
* Name of Work	:	Improvements to drain at Rajareddy Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/204/2017-18 Dated: 05.02.2018
* Sample ID	:	Cement
Sample Received on	:	05.02.2018
Period of Testing	:	05.02.2018 to 06.02.2018

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988 (RA-2014)	29.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	165 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	480 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988 (RA-2014)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

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#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
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Job No.: CTCE/BBMP/BHSK/W.No.14/CSR-02/562m/SAND-Gradation/2017-18 06.02.2018

TEST REPORT ON SIEVE ANALYSIS OF FINE AGGREGATES

* Customer	: **Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	: **Mr. B.H. Shivakumar,** No.1304, 12th Cross, 7th Main, WOC Road 2nd Sage, Bangalore – 560 086.
* Name of Work	: Improvements to drain at Rajareddy Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	: BBMP/DZ/AEE/TDSD/PR/204/2017-18 Dated: 05.02.2018
* Sample ID	: Fine Aggregates
Technical Reference	: IS : 2386 (Part 1) - 1963 (RA-2011)
Sample Received On	: 05.02.2018
Date of Testing	: 06.02.2018

Total Wt. of Aggregates in gms = **1000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	97.00	90-100	90-100	90-100	95-100
2.36	78.00	60-95	75-100	85-100	95-100
1.18	58.00	30-70	55-90	75-100	90-100
600 Micron	36.50	15-34	35-59	60-79	80-100
300 Micron	18.00	5-20	8-30	12-40	15-50
150 Micron	4.60	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-II specific limits.

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Job No.: CTCE/BBMP/BHSK/W.No.14/CSR-02/562m/AGG/GR/2017-18 06.02.2018

TEST REPORT ON SIEVE ANALYSIS OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. B.H. Shivakumar,** No.1304, 12th Cross, 7th Main, WOC Road 2nd Sage, Bangalore – 560 086.
* Name of Work	:	Improvements to drain at Rajareddy Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/204/2017-18 Dated: 05.02.2018
* Sample ID	:	Coarse Aggregates (40mm)
Technical Reference	:	IS : 2386 (Part 1) -1963 (RA-2011)
Sample Received on	:	05.02.2018
Date of Testing	:	06.02.2018

Total Wt. of Aggregates in gms= **5000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.40	95-100	85-100
20	38.16	30-70	0-20
10	18.12	10-35	0-5
4.75	2.12	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under graded specific limits.

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Job No.: CTCE/BBMP/BHSK/W.No.14/Steel/2017-18 24.02.2018

TEST REPORT ON REINFORCEMENT STEEL

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. B.H. Shivakumar,** No.1304, 12th Cross, 7th Main, WOC Road 2nd Sage, Bangalore – 560 086.
* Name of work	:	Improvements to drain at Rajareddy Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/204/2017-18 Dated: 05.02.2018
* Samples ID	:	10 mm Bar
Technical Reference	:	IS: 1786-2008 (RA-2013)
Date of Testing	:	24.02.2018

Sl No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm2	Tensile strength (Ultimate stress) N/mm2	Elongation percent gauge length		
1	10	0.62	517	558	13.2	O.K	O.K

*Information is furnished by the Customer/Representative.

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Job No.: CTCE/BBMP/BHSK/W.No.14/Steel/2017-18 24.02.2018

TEST REPORT ON REINFORCEMENT STEEL

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. B.H. Shivakumar,** No.1304, 12th Cross, 7th Main, WOC Road 2nd Sage, Bangalore – 560 086.
* Name of work	:	Improvements to drain at Rajareddy Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/204/2017-18 Dated: 05.02.2018
* Samples ID	:	16 mm Bar
Technical Reference	:	IS: 1786-2008 (RA-2013)
Date of Testing	:	24.02.2018

Sl No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm2	Tensile strength (Ultimate stress) N/mm2	Elongation percent gauge length		
1	16	1.58	520	562	13.4	O.K	O.K

*Information is furnished by the Customer/Representative.

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Job No.: CTCE/BBMP/BHSK/W.No.14/CSR-02/562m/CC Solid Block/2017-18 07.02.2018

TEST REPORT ON COMPRESSIVE STRENGTH OF SOLID CONCRETE BLOCKS

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. B.H. Shivakumar,** No.1304, 12th Cross, 7th Main, WOC Road 2nd Sage, Bangalore – 560 086.
* Name of Work	:	Improvements to drain at Rajareddy Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/204/2017-18 Dated: 05.02.2018
Technical Reference	:	IS: 2185 (Part-1) - 2005 (RA-2010)
Size of Blocks	:	400mm x 200mm x 200mm
Cross Sectional Area	:	80000 mm^2
No. of Blocks Tested	:	08
Sample Received on	:	05.02.2018
Date of Testing	:	07.02.2018

Sl.No.	Block ID	Wt. in Kg	Failure load (KN)	Compressive strength (N/mm^2)	Requirement as per IS: 2185 (Part-1) - 2005 (RA-2010)
1	Block 1	34.62	283.5	3.54	Minimum required Compressive Strength of Individual Units 3.20 N/mm^2
2	Block 2	35.90	285.7	3.57	
3	Block 3	36.65	286.4	3.58	
4	Block 4	34.52	282.5	3.53	
5	Block 5	36.61	281.7	3.52	
6	Block 6	35.82	283.4	3.54	
7	Block 7	36.87	285.1	3.56	
8	Block 8	35.24	281.3	3.52	

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Job No.: CTCE/BBMP/BHSK/W.No.14/CSR-02/562m/Cube/2017-18 21.03.2018

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: Asst. Executive Engineer, T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	: Mr. B.H. Shivakumar, No.1304, 12th Cross, 7th Main, WOC Road 2nd Sage, Bangalore – 560 086.
* Name of the work	: Improvements to drain at Rajareddy Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	: BBMP/DZ/AEE/TDSD/PR/204/2017-18 Dated: 05.02.2018
* Sample ID	: Coping Concrete
Technical Reference	: IS: 516-1959 (RA-2013)
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
* Grade of Concrete	: M_{10}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 21.03.2018

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	21.02.2018	21.03.2018	8.127	263.5	11.71
2	21.02.2018	21.03.2018	8.275	270.8	12.04
3	21.02.2018	21.03.2018	8.330	282.4	12.55

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